

JUNE Rec'd PCT/PTO

24 APR 2002

PATENT

Attorney Docket No. 213649

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Alan J. SMITH

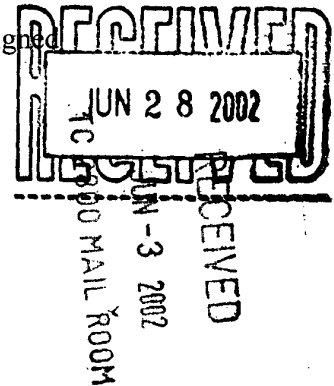
Application No. 10/030,317

Filed: October 19, 2001

For: APPARATUS AND METHOD FOR  
MEASURING DECAY IN INTENSITY  
OF ELECTROMAGNETIC RADIATION  
IN MULTIPASS SPECTROMETRY

Group Art Unit: Unassigned

Examiner: Unassigned



INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
Washington, D.C. 20231

Pursuant to 37 CFR 1.97 and 1.98, the references listed on the enclosed Form PTO-1449 and/or Substitute Form PTO-1449 ("Form 1449") are submitted for consideration by the Examiner in the examination of the above-identified patent application.

The full consideration of the references in their entirety by the Examiner is respectfully requested and encouraged. Also, it is respectfully requested that the references be entered into the record of the present application and that the Examiner place his or her initials in the appropriate area on the enclosed Form 1449, thereby indicating the Examiner's consideration of each of the references.

The submission of the references listed on the Form 1449 is for the purpose of providing a complete record and is not a concession that the references listed thereon are prior art to the invention claimed in the patent application. The right is expressly reserved to establish an invention date earlier than the above-identified filing date in order to remove any reference submitted herewith as prior art should it be deemed appropriate to do so.

Further, the submission of the references is not to be taken as a concession that any reference represents art that is relevant or analogous to the claimed invention. Accordingly, the right to argue that any reference is not properly within the scope of prior art relevant to an examination of the claims in the above-identified application is also expressly reserved.

The Information Disclosure Statement is being filed:

- ☒ **within** any one of the following time periods: (a) within three months of the filing date of a national application other than a continued prosecution application under 37 CFR 1.53(d); (b) within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 of an international application; (c) before the mailing date

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of a first Office Action on the merits; or (d) before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

- ☐ **after** (a), (b), (c) or (d) above, but before the mailing date of a final action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an action that otherwise closes prosecution in the application, and includes *one* of:

☐ the Statement under 37 CFR 1.97(e) (see "Statement under 37 CFR 1.97(e)" below).

*or*

☐ the fee of \$180 set forth in 37 CFR 1.17(p) (see "Fees" below).

- ☐ **after** the mailing date of a final action under 37 CFR 1.113 or a Notice of Allowance under 37 CFR 1.311, or an action that otherwise closes prosecution in the application, and on or before payment of the issue fee, and includes the Statement under 37 CFR 1.97(e) (see "Statement under 37 CFR 1.97(e)" below), and the fee of \$180 as set forth in 37 CFR 1.17(p) (see "Fees" below).

- ☐ **after** the mailing date of a Notice of Allowance under 37 CFR 1.311, and on or before payment of the issue fee, and **within** thirty days of receiving each item of information contained in the Information Disclosure Statement, and includes the Statement under 37 CFR 1.704(d) (see "Statement under 37 CFR 1.704(d)" below), and the fee of \$180 as set forth in 37 CFR 1.17(p) (see "Fees" below).

NOTE: This is for original applications except applications for a design patent, filed on or after May 29, 2000, wherein a paper containing only an Information Disclosure Statement in compliance with 37 CFR 1.97 and 1.98 is being filed.

### Copies of the References

- ☒ Copies of the references listed on the enclosed Form 1449 are enclosed herewith. Attached to each reference not in the English language is a concise explanation of the relevance pursuant to 37 CFR 1.98(a)(3). An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of the relevance pursuant to 37 CFR 1.98(a)(3).

- ☒ A copy of the foreign search report is enclosed herewith.

- ☐ The references listed on the enclosed Form 1449 were previously identified in the parent application(s) of the present application, and copies of the references were furnished at that time. Accordingly, additional copies of the references are not submitted herewith, so as not to burden the file with duplicate copies of references. The Examiner is respectfully requested to carefully review the references in accordance with the requirements set out in the Manual of Patent Examining Procedure. In accordance with 37 CFR 1.98(d), the details of the parent application(s) relied upon for an earlier filing date under 35 USC 120 in which copies of the references were previously furnished are set out below:

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U.S. APPLICATIONS		Status ( <i>check one</i> )		
U.S. APPLICATIONS	U.S. FILING DATE	PATENTED	PENDING	ABANDONED
1.				
2.				
3.				

**Statement under 37 CFR 1.97(e)**

- ☐ The **undersigned** hereby states that each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign patent application not more than three months prior to the filing of the Information Disclosure Statement.
- ☐ The **undersigned** hereby states that no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign patent application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the Information Disclosure Statement.

**Statement under 37 CFR 1.704(d)**

- ☐ The **undersigned** hereby states that each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and that this communication was not received by any individual designated in 37 CFR 1.56(c) more than thirty days prior to the filing of the Information Disclosure Statement.

**Fees**

- ☐ No fee is owed by the applicant(s).
- ☐ The **IDS Fee of \$180** under 37 CFR 1.17(p) is enclosed herewith.

**Method of Payment of Fees**

- ☐ Attached is a check in the amount of \$ .
- ☐ Charge Deposit Account No. 12-1216 in the amount of \$ . (A duplicate copy of this communication is enclosed for that purpose.)


**Authorization to Charge Additional Fees**

- ☒ If any additional fees are owed in connection with this communication, please charge Deposit Account No. 12-1216. (A duplicate copy of this communication is enclosed for that purpose.)

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**Instructions as to Overpayment**

- ☒ Credit Account No. 12-1216.  
☐ Refund



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Date: April 18, 2002

CERTIFICATE OF MAILING

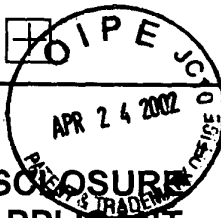
I hereby certify that this INFORMATION DISCLOSURE STATEMENT (along with any documents referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231.

Date: \_\_\_\_\_

4/18/02



Please type a plus sign (+) inside this box →



Substitute for form 1449A/B/PTO  <h2 style="text-align: center;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</h2> <p style="text-align: center;">(Use as many sheets as necessary)</p>			<b>Complete if Known</b>		
			Application Number	10/030,317	
			Filing Date	October 19, 2001	
			First Named Inventor	Alan J. SMITH	
			Group Art Unit	Unassigned	
			Examiner Name	Unassigned	
Sheet	1	of	1	Attorney Docket Number	213649

U.S. PATENT DOCUMENTS						
Examiner Initials	Doc. No.	U.S. Patent Document		Name of Patentee or Applicant	Date of Publication	Filing Date If Appropriate
		Application or Patent Number	Kind Code			
	AA	4,322,621		Aagard	3/30/1982	
	AB	5,220,402		Harvey	6/15/1993	
	AC	5,485,276		Bien et al.	1/16/1996	
	AD	5,721,430		Wong	2/24/1998	
	AE	5,742,054		Atkinson	4/21/1998	
	AF	5,747,807		Atkinson et al.	5/5/1998	
	AG	5,815,277		Zare et al.	9/29/1998	
	AH	5,835,231		Pipino	11/10/1998	
	AI	5,841,533		Atkinson	11/24/1998	
	AJ	5,854,684		Stabile et al.	12/29/1998	

FOREIGN PATENT DOCUMENTS								
Examiner Initials	Doc. No.	Foreign Patent Document			Name of Patentee or Applicant	Date of Publication	Translation	
		Office	Application or Patent Number	Kind Code			Yes	No**
	AK	JP	55039049		Matsushita Electric Ind. Co. Ltd.	03/18/1980	X	
	AL	DE	90 17 745.2		Drägerwerk AG	12/7/1990	X	
	AM	DE	42 14 840	A1	Drägerwerk AG	5/5/1992	X	
	AN	WO	93/13401		Gaztech International Corporation	7/8/1993		
	AO	JP	05296934		Sanyo Electric Co. Ltd.	11/12/1993	X	

OTHER - NON PATENT LITERATURE DOCUMENTS					Translation	
Examiner Initials	Doc. No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number (s), publisher, city and/or country where published.			Yes	No**
	AP	Anderson et al., "Mirror reflectometer based on optical cavity decay time," <i>Applied Optics</i> , 23:1238-1244 (1984)				
	AQ	Herbelin et al., "Sensitive measurement of photon lifetime and true reflectances in an optical cavity by a phase-shift method," <i>Applied Optics</i> , 19:144-147 (1980)				
	AR	Hodges et al., "Laser bandwidth effects in quantitative cavity ring-down spectroscopy," <i>Applied Optics</i> , 35:4112-4117 (1996)				
	AS	Jongma et al., "Trace gas detection with cavity ring down spectroscopy," <i>Rev. Sci. Instrum.</i> , 68:2821-2828 (1995)				
	AT	O'Keefe and Deacon, "Cavity ring-down optical spectrometer for absorption measurements using pulsed laser sources," <i>Rev. Sci. Instrum.</i> , 59:2544-2551 (1988)				
	AU	Scherer et al., "Cavity Ringdown Laser Absorption Spectroscopy: History, Development, and Application to Pulsed Molecular Beams," <i>Chem. Rev.</i> , 97:25-51 (1997)				
	AV	White, "Long Optical Paths of Large Aperture," <i>J.O.S.A.</i> , 32:285-288 (1942)				
	AW	Zalicki and Zare, "Cavity ring-down spectroscopy for quantitative absorption measurements," <i>J. Chem. Phys.</i> , 102:2708-2717 (1995)				

Examiner Signature		Date Considered	
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\* A concise statement of relevance is being submitted in lieu of a translation. 37 CFR 1.98(a)(3).

+ An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of relevance under 37 CFR 1.98(a)(3).